NATIONAL ECONOMIC CONVERSION

Congressional Proposals and Prospective Action

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NATIONAL ECONOMIC CONVERSION: CONGRESSIONAL PROPOSALS AND PROSPECTIVE ACTION

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INTRODUCTION

The first speaker, Dr. Marvin Kosters (on the staff of the Council of Economic Advisors) discussed the broad, economic aspects of the problem of national economic conversion. In addition, he indicated the nature and extent of the Government's current efforts to cope with the problem as well as the Administration's underlying point of view regarding conversion.

Thus, he expressed the Administration's belief that the primary responsibility for achieving conversion rested with industry but that state and local governments also had to raise the necessary financial resources to provide some public markets for the converted activities. In the Administration's view there was little the Federal Government should do to influence national economic conversion, other than maintain the sorts of information dissemination programs currently conducted by the Department of Labor. Dr. Kosters noted that in any dynamic economy there will be significant fluctuations from time to time, that such fluctuations inevitably entail various costs, and that these costs often will include increased unemployment of special classes of workers, such as scientists and engineers.

The second speaker, Dr. Hugh Folk of the University of Illinois, delineated current and projected utilization of scientific manpower. From his statement and the ensuing discussion, the human dimension of the costs entailed by defense and space cutbacks became apparent.

HUMAN IMPACT OF CUTBACKS

Recent NSF estimates indicate that by early 1970 there were about two million scientists, engineers, and technicians employed by industry and government. Of this total one in every four scientists, engineers, and technicians was engaged in employment generated by the Department of Defense, the National Aeronautics and Space Administration, or the Atomic Energy Commission; and half

of those working in the Federal Government were employed by DOD, NASA, or AEC. Thus, it is clear that a sizeable number of individual scientists, engineers, and technicians may well be affected by defense and space cutbacks.

It should also be noted that the human impact of such cutbacks is not distributed uniformly across the country but is concentrated in certain areas where the effect on the individuals and communities concerned may be enormous. Thus, of the scientists and engineers employed in the aerospace industry, 44% were located on the Pacific coast and 24% in the New England and middle Atlantic states.[1] Accordingly in Los Angeles County as of September, there were more than 20,000 unemployed scientists and engineers; similarly in the greater Boston area (especially around Route 128) one in every five scientists and engineers is already out of work.[2] It is important not to permit overall employment statistics and discussions of inevitable economic dislocations to obfuscate the human hardships experienced by the families of tens of thousands of individual scientists and engineers and by the communities in which they are concentrated.

FEDERAL INVESTMENT IN SCIENCE AND TECHNOLOGY

Even from the point of view of national economics, it does not make sense to permit substantial unemployment of scientists and engineers. An enormous Federal investment has gone into the formal education and on-the-job training of the nation's scientists and engineers -- probably a greater per capita investment than for that of any other group within the society. It is clearly in the country's economic interest that it receive an adequate return on this major investment in human resources. Moreover, if past history can be taken as a guide, the potential contribution of science and technology to the nation's future progress is virtually immeasurable. Consequently, substantial unemployment among scientists and engineers hurts not only the individuals and communities directly involved but also injures the entire nation and its future economic strength and progress.

FEDERAL ROLE IN CONVERSION

For these reasons I believe it is imperative that the Federal Government assume a role of active leadership in accomplishing national economic conversion. I am in accord with Dr. Kosters' views that the ultimate resolution of the conversion problem depends on the efforts of private industry; and that state and local governments must attempt to create public markets for science and technology. But I definitely disagree with his belief that the Federal role in conversion should be restricted essentially to the dissemination of relevant information to affected individuals and groups.

State and local governments are currently suffering from a severe financial squeeze; for them to generate significant public markets for science and technology without substantial Federal fianancial assistance is unthinkable in the present situation. (Actually they would also require extensive Federal educational aid to help them develop the capabilities to stimulate such markets effectively.)

Similarly, to rely on the aerospace industry to take the lead -- or even to cooperate fully -- in achieving conversion does not offer much prospect of success. This fact is well documented by the Ribicoff Subcommittee on Executive Reorganization, which recently released the results of a survey of industrial firms in the defense industry.

The Senator's summary statement notes that: "In general, the responses indicated that private industry is not interested in initiating any major attempts at meeting critical public needs. Most industries have no plans or projects designed to apply their resources to civilian problems. Furthermore, they indicated an unwillingness to initiate such actions without a firm commitment from the Government that their efforts will quickly reap the financial rewards to which they are accustomed. Otherwise, they appear eager to pursue greater defense contracts or stick to proven commercial products within the private sector."[3]

In short, national economic conversion will not occur on its own for the foreseeable future. Industry manifests a widespread unwillingness to take any initiative in this area. State and local governments do not have the financial resources or knowledge to provide leadership for conversion. If the nation is to mitigate the extensive human hardships involved and maximize the return on the national investment in science and technology, it is incumbent on the Federal Government to assume active leadership for achieving national economic conversion. Information dissemination programs are clearly not enough.

CONGRESSIONAL PROPOSALS

In view of the magnitude of the conversion problem and the many warnings over the years that the problem would be forthcoming, it is somewhat disquieting to note that there are currently only two significant Congressional bills pending which are aimed at achieving national economic conversion. The first of these (S. 4241) was introduced by Senator Edward M. Kennedy on August 14, 1970. It is entitled the "Conversion Research and Education Act of 1970." The second (S. 4430) was introduced by Senator McGovern on October 2, 1970. It is entitled the "National Economic Conversion Act." We shall discuss the chief features and legislative prospects of each of these bills below.

McGovern CONVERSION BILL (S. 4430)

"It is the purpose of this Act to provide means through which the United States can determine the public policies which will promote an economic conversion which can (1) assure an orderly transition from defense to civilian production with a minimum of dislocation to families and communities and (2) encourage conversion of technologies and managerial and worker skills developed in defense production to the service of high-priority civilian purposes."

The bill establishes within the Executive Office of the President the National Economic Conversion Commission composed of the Secretaries of Defense, Agriculture, Interior, Commerce (who shall serve as Chairman), Labor, HEW, HUD, Transportation, and the Chairman of AEC, the Administrator of NASA, the Director of the Arms Control and Disarmament Agency, the Chairman of the Council of Economic Advisors, three representatives of labor, and three representatives of industry.

The Commission would have extensive operational authority to approve and oversee the implementation of industrial conversion plans and to pay unemployment benefits to displaced defense workers.

Each firm receiving a defense or space contract would be required to deposit 12 1/2% of pre-tax profits in "conversion reserves" to be held in trust by the Commission.

Each firm would have to develop detailed plans for the conversion of each of its defense facilities. These plans would be reviewed by the Commission staff and approved or rejected. If rejected, the firm would have to develop a modified plan.

Firms which succeeded in converting their facilities would reclaim that portion of the reserves which had not been already expended in developing and implementing the conversion plan or in providing unemployment benefits to displaced workers. In addition, they would receive interest on the remaining reserves. The reserves and the interest they received would be tax free. Thus the government, in effect, would be providing a financial reward to the firms which were successful in achieving conversion.

In the case of firms which don't comply with their conversion plans or which comply but nevertheless fail to achieve successful conversion of particular facilities, the Commission is authorized to take over, convert, and operate those facilities, or arrange for other organizations to convert and operate the facilities.

In my view the McGovern Bill embodies and espouses a number of fine principles but also exhibits several serious flaws which, in practice, would vitiate the objectives of the bill. The under-

lying principle of the bill that it is the Federal Government's responsibility to take the leadership in achieving national economic conversion is, in my judgment, sound. Other important principles embodied in the bill are: (1) that extensive planning is necessary to accomplish conversion effectively; (2) that conversion should be achieved through a cooperative government-industry effort; and (3) that the government should offer incentives as well as impose constraints to assure that conversion occurs.

I think all of these principles are sound and essential to an effective national conversion program. However, in my view the bill does not provide effective mechanisms for translating these principles into practice.

The first defect I discern is very relevant to the subject of this Conference. Although the bill aims at cooperation between industry and the Federal Government, it does not recognize the important role which state and local government must play in a national conversion program. By assuming as it does that a Federal Government Commission can effectively carry out detailed supervision of industrial activities throughout the various states and regions of the country, the bill manifests no recognition of the diversity and complexity of American industrial activity. Only by regional, state and local government mediation in the conversion process can these local variations be adequately taken into account.

The second major defect in the bill is that it assumes that conversion should occur by individual firms converting each of their defense facilities to civilian activities. This reflects a straightforward approach to conversion which, unfortunately, displays a superficial understanding of the problem. Over the past decade the Arms Control and Disarmament Agency has sponsored a great many studies of economic conversion.[4] The studies have examined actual cases of attemped conversion on the part of aerospace firms,[5] as well as conducting analyses of the potential problems involved in adjusting to reduced defense spending.[6] The clear consensus of these studies is that by and large the efforts of individual firms to convert from defense to civilian activities have proven unsuccessful. The few successes which have occurred have generally involved cases of a defense firm acquiring as a subsidiary or new division a firm which was already functioning successfully in civilian markets.

The reasons for this record of failure lie in the different patterns of operation, with their associated skills and attitudes, which prevail in the defense and civilian markets. These differences are most readily apparent in the area of marketing. Defense markets involve a single customer, the Department of Defense, although there are, of course, differences among the three services and their various components. Defense industries attempt to meet standards and specifications which are set by the Defense Department with considerable collaboration from industry. In consumer markets, on the other hand, industry must help shape and then meet

the demands and tastes of millions of disparate customers. In social service markets (e.g., municipal waste disposal, urban transportation systems, health-care services, etc.) the standards and specifications which must be met are often vague, if they are defined at all. In addition to these marketing considerations, there are similar significant differences between defense and civilian operations in all other areas of business activity. Research, development, and engineering for defense programs require a level of sophistication, precision, and emphasis on high performance, which is generally at odds with the degree of cost consciousness necessary to compete in civilian markets. Similarly, there are significant differences in finance and accounting, production, community relations, and other areas of business activity.

In short, the very skills and attitudes which assure success in the defense industry might lead to failure or extreme difficulty in civilian markets. Accordingly, to conceive of conversion in the context of the individual firm -- indeed of each facility of the individual firm -- is to ignore the clear evidence arising from research in this field.

The third major defect in the McGovern Bill is the degree of governmental control it imposes on industrial conversion activities. The conversion plans which firms would have to submit to the Commission for approval and thereafter keep current are described in Title II, Section 201 (b) of the bill as follows:

Each conversion plan (pertaining to each facility of the firm "shall contain such information and other data as the Commission may prescribe, including the following:

"(1) The type of product or service to be produced or provided.

"(2) A statement setting forth the basis for such contractor's belief that a market for the proposed product or service is available, including details of any marketing studies or surveys made.

"(3) A description of efforts undertaken and preparations made by the contractors to market the proposed product or service, including contacts established with market outlets and potential customers.

"(4) A list of the machinery and equipment used, at the time of the filing of such plan, by such contractor in connection with the furnishing of defense materials which may be directly converted to the proposed civilian production; a list of machinery and equipment so used at such time that would require modification for that purpose; a list of additional machinery and equipment which would have to be procured by any such contractor for that purpose; a description of the nature and extent of plant layout changes which would be required for such proposed civilian production; and a detailed description of the nature and amount of manpower retraining that would be necessary for conversion to such production.

"(5) The estimated costs, at current prices, of the physical conversion and manpower retraining referred to in paragraph (4) of this subsection.

"(6) An estimate of the time period required from the initiation of the conversion process to its completion, and of employment levels during each month of such period.

"(7) In the case of prime defense contractors or prime nonprofit contractors, a detailed description of contacts and arrangements made with subcontractors to facilitate the maximum possible degree of coordination of their respective conversion plans.

"(8) In the case of prime defense contractors and nonprofit contractors, and their subcontractors, a detailed description of contacts and arrangements made by them with other firms in the same labor market area designed to facilitate maintenance of employment levels in that area.

"(9) A statement as to how the foregoing elements in the conversion plan would be affected, and to what extent they would have to be modified, in the event defense production is gradually reduced rather than totally eliminated at a single point in time."

The degree of governmental intervention in industry entailed by the preceding provisions would exceed even the wartime controls imposed during the Second World War. The bill doesn't delve into the size of the staff which the Commission would require, but it is clear that administering the provisions of Section 201 alone would entail a sizeable bureaucracy. I find these provisions of the bill highly impractical and reflective of an inadequate understanding of the defense industry and of the American economy in general.

The fourth major flaw in the bill relates to the depositing of 12 1/2% of pre-tax profits into a government-held reserve fund. The firms which would need conversion most would be those whose defense sales were declining the most. Yet those same firms would be suffering from reduced profits, probably even at a greater rate of reduction than the drop in sales volume. They would find it financially most difficult to dispense with 12 1/2% of their profits despite the prospect of eventually recouping a portion of the reserve plus interest. Considering the costs of carrying out conversion and compensating workers who might be laid off, it is doubtful that the amounts which might be recouped would be very significant, notwithstanding the mininal interest in omission of taxes.

The fifth major problem with respect to the bill concerns its prospects for enactment. In my judgment it has virtually no prospect of passage, either in the Senate or in the House where it was introduced by Congressman Bradford Morse of Massachusetts.

It is likely to arouse the opposition of all of American industry. The defense industry is likely to oppose it because it withdraws 12 1/2% of all pre-tax profits. Civilian industry is likely to oppose it because it aims at strengthening potential competitors for entry into civilian markets. In addition, its governmental review and control features would probably be viewed as contrary to the fundamental tenets of the American free enterprise system by most members of the business community.

Moreover, the bill has been referred to the Senate Commerce Committee of which Senator McGovern is not a member. This means he has minimal political leverage to influence the progress of the bill within the Commerce Committee, especially since he does not hold any other powerful positions within the Senate. Also the Chairman of the Commerce Committee, Senator Magnuson of Washington, has strong ties to the business community in general because of his committee jurisdiction and to the defense industry in particular because of the heavy concentration of aerospace activities in his state. Accordingly he is likely to pay considerable attention to business opposition to the bill.

In short, I believe the McGovern bill has excellent objectives but that it contains serious substantive flaws and has almost no prospect for enactment.

KENNEDY CONVERSION BILL (S. 4241)

The other significant pending bill regarding the problems of national economic conversion is the Conversion Research and Education Act of 1970, introduced on August 14, 1970, by Senator Edward M. Kennedy. (A companion bill, H. R. 19037, has been introduced in the House by Congressman Giaimo of Connecticut and co-sponsored by upwards of sixty other congressmen. In addition, Congressman Daddario of Connecticut has introduced another conversion bill which differs from the Kennedy bill in only a few minor respects.)

The Kennedy Bill is directed only at the conversion of scientific and technical manpower and resources from defense[7] to civilian oriented activities. It is not an attempt at a completely comprehensive bill which would cover all aspects of the conversion problem but rather at a limited pragmatic bill which would have good prospects for prompt enactment and effective action on conversion.

Before considering the provisions of the bill, it is worthwhile to establish the perspective on the conversion problem which underlies the bill. For the Nation to achieve conversion from defense to civilian activities, two kinds of measures have to be carried out in concert. On the one hand it is necessary to adapt the resources now engaged in defense activities so that they can

function effectively in the civilian sector. Thus, facilities and equipment may have to be modified, technical information may have to be interpreted, and manpower may have to be retrained in order to operate successfully in the civilian sphere. On the other hand, the civilian sector itself has to be modified somewhat to make it more receptive to the resources and talents forthcoming from the defense sector. Thus, the civilian economy may need the infusion of some new institutions and mechanisms to foster the effective functioning of the research, development and engineering which have proved so successful in the defense sector. For example, by cooperatively combining their requirements and resources, many separate school districts can join together to contract for new facilities and services in a major way likely to attract the innovative talents of large industrial firms -- in a similar way to how DOD and NASA have worked with the aerospace industry. Another example would be revisions in the tax laws to shelter and foster technological innovation on the civilian sector.

The major requirement, however, for making the civilian economy more receptive for the technical resources of the defense sector is, of course, the creation of civilian markets for research, development and engineering. This in turn requires large infusions of Federal dollars into these kinds of activities. There is simply no other way of generating much large civilian markets for science and technology. Increases in Federal funding for research, development, and engineering of $5 to $10 billion are required for agencies such as HUD, DOT, and HEW if the nation is to realize the potential benefits of science to problems in pollution, housing, transportation, health-care, etc. In order for these funds to be effectively applied in practice, much of them will have to be disbursed in the form of bloc grants to the states. But regardless of how disbursement is administered, the funds must come from the Federal Government.

No single bill on conversion can provide for such funding. It must be accomplished by fighting for such funding as each agency authorization and appropriation bill moves through the Congress.

The Kennedy Conversion Bill can not attempt to provide the necessary markets of civilian research, development, and engineering. However, although those markets must come through the normal appropriations process, the Kennedy Bill does strive to facilitate such funding through its policy section which includes the following declaration in Section 2(b):

"Accordingly, the Congress declares that it is the continuing policy and responsibility of the Federal Government to take appropriate measures directed toward achieving the following goals:

"(1) scientists, engineers, and technicians must have continuing opportunities for socially useful employment in positions commensurate with their professional, technical capabilities;

"(2) the total Federal investment in science and technology must be restored to an adequate annual expenditure level and then continue to grow annually in proportion to the growth in the Gross National Product.

"(3) Federal obligations for civilian-oriented research and development activities must be increased so as to reach a level of parity with Federal obligations for defense related research and development activities, except when inconsistent with overriding considerations of national security."

Through adoption of these policies in a law enacted by the Congress and signed by the President, the bill would help assure: (1) national funding for science and technology in proportion to growth in the GNP; and (2) the establishment and maintenance of parity between military and civilian R&D funding. In addition, the bill would, in effect, constitute a "Full-Employment Act" for scientists and engineers "in positions commensurate with their professional, technical capabilities."

The remainder of the bill is devoted primarily to manpower conversion programs. Title I assigns to the National Science Foundation the responsibility for coordinating all Federal conversion programs of research and development activities and for recommending improvements in such programs as well as additional programs or policies.

Title II, Section 201 authorizes the Foundation to sponsor research to: (1) study the social, economic, and managerial apsects of coversion; (2) identify priority areas of R&D likely to contribute to the resolution of the nation's pressing domestic problems; and (3) advance the technical state-of-the-art in the priority areas.

Title II, Section 202 authorizes the Foundation to sponsor educational programs for: (a) retraining scientists, engineers, and technicians for civilian research and development activities; (b) training Federal, state, and local government officials to obtain the most effective and economical contribution from science and technology to the resolution of the nation's social problems; and (c) providing courses and curricula to prepare students for careers in civilian, socially-oriented research and development activities. This last section would enable young scientists and engineers to reorient their professional activities to civilian pursuits right at the outset of their careers.

Title III authorizes the Economic Development Administration to sponsor conversion training programs for management personnel in the defense industry.

Title IV authorizes the Small Business Administration to provide: (1) grants to small business firms to defray the costs of their personnel attending conversion education programs; and

(2) loan guarantees and interest assistance payments to small business firms to carry out specific conversion projects. The SBA is also authorized to develop and operate a computerized Conversion Information Service to acquaint small business firms with available conversion assistance programs and with market needs and opportunities for civilian R&D activities.

Title V, Section 502 establishes an Advisory Commission on R&D Conversion Education to evaluate the effectiveness of Federal conversion education assistance programs, to advise the Secretary of Commerce and the Director of NSF, and to publicize its findings as advisable.

Title V, Section 506 authorizes the following appropriations to carry out the provisions of the Act: $100 million for the first fiscal year; $150 million for the second fiscal year; and $200 million for the third fiscal year. The total amount to be authorized over three years is thus $450 million.

While forecasting the passage of any Congressional bill is subject to considerable uncertainty, it appears that the prospects for enactment of the Kennedy Conversion Bill in some form are fairly good. The bill has been referred to the Committee on Labor and Public Welfare of which Senator Kennedy will be the fourth ranking member in the 92nd Congress. He is also likely to be chairman of the subcommittee which considers the bill. Accordingly, it is probable that the Committee on Labor and Public Welfare will report the bill favorably to the Senate. In view of the urgency and increasing magnitude of the conversion problem across the nation, the bill would probably stand a good chance of Senate passage, to the extent we can foresee such matters.

In the House, the fact that upwards of sixty representatives from across the country, including conservative Republicans as well as liberal Democrats, joined in co-sponsoring the bill bodes well for its prospects. More important, Congressman John Davis of Georgia has expressed his interest in pursuing the bill in his role in the 92nd Congress as Chairman of the Subcommittee on Science, Research, and Development of the Committee on Science and Astronautics to which the bill will be referred.

The current post-election session is too short for completing legislative action on the bill, but the bill, with some modifications, will undoubtedly be reintroduced in both House and Senate early in the new Congress.[8] All in all, I would predict that the bill, in some revised form, stands a good chance of passage in the first session of the 92nd Congress.

CONCLUDING COMMENTS

The problem of converting a substantial portion of the

country's scientific and technical resources from defense to civilian oriented activities is as urgent as it is difficult. Much needs to be done to accomplish this goal, and the nation is already far behind on the problem. But despite the difficulties involved, conversion must be seen not just as an economic and technical challenge, but also as a human and social opportunity. Through the process of conversion, the current generation of (scientists and) engineers will be able to direct their talents to solving our pressing social problems, restoring the integrity of our environment, and enhancing the quality of our lives."[9] For the past three decades the scientific and technical talent of the nation has been focused primarily on military and space problems. The wisdom of this allocation of national resources in the past is not at issue. What is important is how we allocate these resources today and in the future. The domestic problems currently confronting the country are too vast to be met with half measures. The nation needs to apply its best talents and resources to the true tasks which are facing it. It's not just a question of generating jobs for unemployed scientists and engineers; it's a question of applying our talent where it is really needed. Conversion is an urgent national necessity.

FOOTNOTES

[1]William G. Torpey, Optimum Utilization of Scientific and Engineering Manpower (Richmond, Virginia: Whittet and Shepperson, 1970), p. 270.

[2]Berkeley Rice, "Down and Out Along Route 128," New York Times Magazine, Nov. 1, 1970, p. 28.

[3]U. S., Congress, Senate, Committee on Government Operations, Subcommittee on Executive Reorganization and Government Research, Responses to Subcommittee Questionnaire (on S. 1285, to establish a National Economic Conversion Commission), Committee Print, 91st Cong., 2nd sess., September, 1970, p. 1-2.

[4]For a comprehensive summary of the implications of those studies., see Marvin Berkowitz, The Conversion of Military-Oriented Research and Development to Civilian Uses (New York: Praeger Publishers, 1970).

[5]See for example, U. S. Arms Control and Disarmament Agency, Defense Industry Diversification, a report prepared by John S. Gilmore and Dean C. Coddington, University of Denver Research Institute (Washington: Government Printing Office, 1966).

[6]See for example, U. S. Arms Control and Disarmament Agency, The Implications of Reduced Defense Demand for the Electronics Industry, a report prepared by Battelle Memorial Institute (Washington: Government Printing Office, 1965).

[7]The Kennedy Conversion Bill defines defense-related activities as those which are sponsored by DOD, NASA, or AEC.

[8]As evidence of the urgency with which Senator Kennedy views the conversion issue, prior to the printing of these Conference Proceedings (on December 4, 1970), he announced his intention of moving to amend the pending National Science Foundation appropriations bill for the current fiscal year to enable the Foundation to begin a program of planning, research, and development on conversion.

[9]Senator Edward M. Kennedy, "Economic Conversion -- A First Priority," Professional Engineer, October, 1970, p. 53.